

**OBJECTIVE OF INTEGRATED SAFETY MANAGEMENT:** The Department and contractors must systematically integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. This is to be accomplished through effective integration of safety management into all facets of work planning and execution. In other words, the overall management of safety functions and activities becomes an integral part of mission accomplishment.

As discussed in Section 2, there are positive aspects and deficiencies in each of the seven evaluated elements (which correspond to the guiding principles of safety management). When viewed individually, three of the evaluated elements (Policy, Leadership, and Worker Empowerment; Balanced Priorities; and Competence Commensurate with Responsibility) were deemed to have effective performance with respect to the established criteria (GREEN). Four of the elements (Clear Roles, Responsibilities, and Accountability; Identification of Standards and Requirements; Hazard Analysis, Work Planning, Hazard Controls, and Operations Authorization; and Performance Evaluation and Feedback) were determined to need improvement and significant management attention (YELLOW).

The seven evaluated elements, however, are interrelated and need to be considered collectively with respect to their impact on the integrated safety management program.

This section discusses how the results of the individual elements “roll up” into the two upper-tier categories—management responsibilities and management implementation—and then into the overall assessment of line management’s effectiveness in establishing an integrated safety management system.

### Management Responsibilities

The “Management Responsibilities” category includes the first four evaluated elements (including Competence Commensurate with Responsibility, which is also directly relevant to implementation). These elements are grouped together because they encompass the responsibilities of DOE and contractor senior manager in establishing an environment that is conducive to an effective safety management program, such as establishing policies and ensuring that resources are sufficient to achieve an effective ES&H program. Although individual weaknesses were identified in all four of the evaluated areas, three of the four relevant evaluated elements were judged to be effective with respect to the established criteria.

When viewed collectively, the results of the evaluation indicate that DP, AL, KAO, and SNL management are supportive of ES&H at SNL. This support is evident in the allocation of sufficient resources to ES&H programs and development of clear policies and goals. DOE (KAO, AL, DP and NE) and SNL management and staff exhibited sufficient technical competence, experience,

skill mix, and knowledge of hazards to effectively and safely manage the various research, weapons, and production-related programs. Management has also demonstrated its commitment to effective ES&H through recent actions, such as the proactive approach to implementing integrated safety management, deployment of ES&H resources to SNL's operating divisions, and establishment of an independent appraisal program within SNL that reports directly to the highest level of management.

Although management commitment is evident, some aspects of the management systems are not fully achieving their intended objectives. For example, accountability for performance is weak in several important areas, such as accountability for corrective actions and subcontractor performance. In addition, management processes for prioritizing and allocating resources, while conceptually sound, are hindered by weaknesses in hazards analysis and assessment programs.

Some of the weaknesses are at least partially attributable to the realignment of roles and responsibilities that have been occurring within DP, AL, KAO, and SNL over the past year and that have been recently expanded to include recommendations from the 120-Day Study. The realignment initiatives have the potential to enhance line management responsibility for safety by focusing responsibility at KAO and deploying SNL ES&H resources to the operating divisions. They also have potential to address longstanding issues, such as different DOE elements providing conflicting direction to contractors. However, both DOE and SNL experienced difficulty during the transition of roles and responsibilities. For example, while the KAO Manager has been given increased responsibility for ES&H at SNL, AL and KAO have not effectively coordinated the use of ES&H technical specialists to support KAO. Similarly, SNL has not yet established effective processes to coordinate roles and responsibilities between building managers and line management operating tenants.

Although issues remain to be addressed in the management responsibilities category, DOE and SNL management have generally been effective in establishing policies and goals and processes for allocating resources, and DOE and SNL generally

have competent and qualified personnel who have demonstrated a commitment to safety. Correspondingly, the management responsibilities category is judged to have effective performance (GREEN).

## Management Implementation

The "Management Implementation" category focuses on the last three evaluated elements and considers Competence Commensurate with Responsibility, which is inherent in implementation of safety management. The elements in this category are primarily implemented by lower-tier managers and workers and encompass activities related to implementing ES&H policies in the performance of the site mission and assessing the effectiveness of implementation in the field. As discussed in Section 2, weaknesses were evident in all three of the evaluated areas.

Effectively implementing a safety management program requires that the components of the site program, such as requirements management, hazards analysis, work planning and control, operations authorizations, DOE and AL assessments, and corrective action programs, be effective both individually and collectively. While SNL is in the early stages of their implementation of their ISMS implementation plan, many of these components are functioning adequately in some facilities and activities, and some individual components have been enhanced in other facilities. Similarly, various components of an assessment program are in place, such as the KAO Facility Representative program and the SNL self-assessment program, which are functioning to identify and correct individual deficiencies. SNL has recently added an independent appraisal program that has the potential to fill a gap in their assessment program by performing cross-cutting and programmatic assessments.

Although AL, KAO, and SNL have a number of the components necessary to implement a safety management program in place at SNL, these components are not effectively implemented at most of the facilities reviewed. As a result, SNL continues to experience unnecessary events and preventable occurrences. In addition, there are

weaknesses in sitewide programs, such as requirements management, that have resulted in requirements not being identified or not being transmitted to the worker in the form of procedures or manuals. AL/KAO assessments, SNL assessments, and corrective action, and issue management programs have not been consistently effective in identifying systemic deficiencies and root causes, nor have they been effective in correcting problems in a timely manner when identified. Most DOE and SNL staff and workers have the education and experience to perform their assigned responsibilities; however, the absence of SNL job qualification standards and associated training is a concern because many positions do not have clear requirements.

The common trend in most of the weaknesses identified by this Oversight review is that SNL has few of the effective institutional procedures and controls needed to establish minimum standards of performance across the site. The weaknesses in institutional procedures and controls were evident in most aspects of safety management implementation, including the flowdown and tailoring of requirements, hazards analysis, work planning and control, assessments, and corrective actions. These weaknesses in institutional processes impact the effectiveness of safety implementation at all levels, including work performed on the “shop floor.” As a result, performance varies from facility to facility and from individual to individual and is not consistently effective.

Although some aspects of safety management implementation are functioning, there are systemic weaknesses in the all of the individual components, and the components are not effectively integrated into a system that ensures that work is performed in accordance with requirements. Correspondingly, the management implementation category is judged to need improvement and significant management attention (YELLOW).

## Integrated Safety Management at SNL

The safety management program at SNL is not yet achieving DOE’s objective of integrating work planning, hazard analysis, and hazard control into all levels of management so that work is performed safely. DOE and SNL senior management have established clear expectations and direction and have demonstrated their personal commitment to improving the protection of workers, the public, and the environment through integrated safety management. However, articulation of goals and objectives and competent personnel are not sufficient to yield adequate results. DOE and SNL management have not adequately ensured that the policies and goals have filtered down to the operational level and have been verified to be effective.

Over the past few years, DOE and SNL initiatives have resulted in ES&H improvement in some areas, particularly those related to implementation of an integrated safety management system. The lack of adequate institutional controls and a standards-based system for integrated safety management is, however, a barrier to achieving needed further improvement. The weaknesses in implementing the molybdenum-99 project are illustrative of how performance can degrade in the absence of institutional controls when individual organizations have excessive flexibility in their approach to implementing requirements. In this project, which was being performed with significant funding constraints, the organizations involved took inappropriate shortcuts in hazards analysis and work planning and controls, and DOE and SNL line management oversight processes were not sufficient to ensure that this program was adequately implemented.

The weak institutional controls have been a longstanding situation at SNL, and to some extent, resistance to institutional controls is part of the site culture, which historically has been characterized by autonomy among the operating divisions and considerable individual freedom. While some DOE and SNL individuals and organizations have performed effectively in the absence of institutional controls, effective performance relies excessively on individuals and has not been consistently

effective. Strong leadership from senior DOE and SNL management is needed to overcome this barrier and integrate safety management into operations and activities at all levels of the organization.

The overall integrated safety management for SNL needs improvement and significant management attention (YELLOW).

The ratings are summarized in Figure 5.

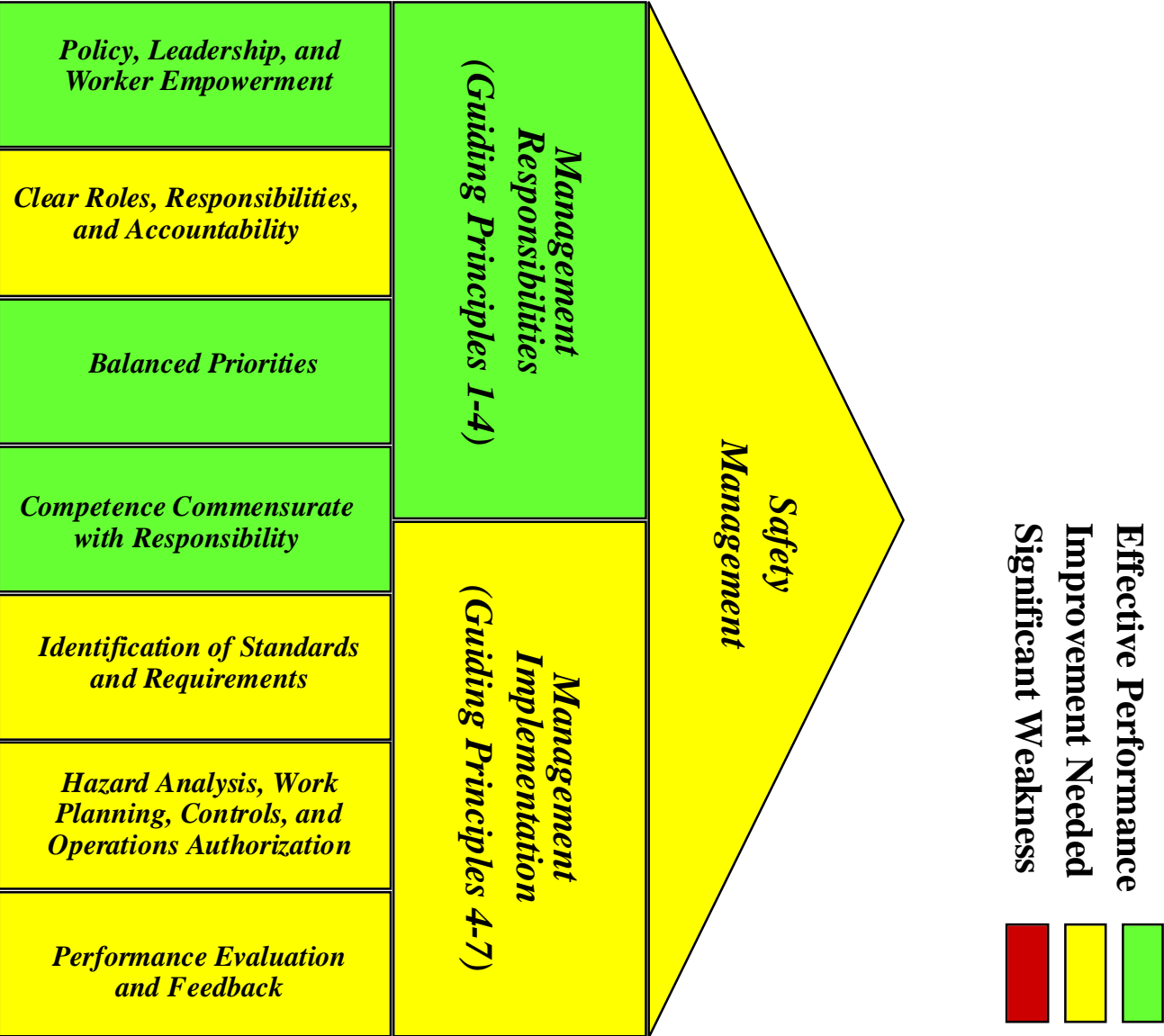


Figure 5. Summary Ratings